

WHAT IS CLAIMED IS:

1 1. A system for communication and mapping of business objects between
2 a mobile client device and a plurality of backend systems via a network, the system
3 comprising:

4 a mobile server including:

5 a process automation engine configured to map business
6 objects to the plurality of backend systems, the process automation engine
7 including a plurality of mobile business processes, each mobile business
8 process defining a flow and exchange of business objects between the mobile
9 client device and at least one of the plurality of backend systems;

10 a communication module coupled to the process automation
11 engine, the communication engine configured to receive and transmit business
12 objects between the mobile client device and at least one of the plurality of
13 mobile business processes via the network;

14 a presentation module coupled to the process automation
15 engine and the communication module, the presentation module configured to
16 define a dynamic user interface based on at least one mobile business process,
17 the dynamic user interface configured to integrate the business objects and the
18 at least one mobile business process; and

19 a mobile client device in data communication with the mobile server
20 and including:

21 a thick client application in data communication with the
22 communication module, the thick client application configured to receive the
23 business objects and the definition of the dynamic user interface and
24 configured to generate the dynamic user interface to facilitate viewing and
25 modifying of the business objects.

1 2. A system according to claim 1, wherein the mobile server further
2 includes an application builder coupled to the communication module and the process

3 automation engine, the application builder configured to create dynamic forms which
4 may be transmitted and presented on the mobile client device.

1 3. A system according to claim 2, wherein the application builder is
2 further configured to define automatic logic that is used to drive the dynamic user
3 interface on the mobile client device.

1 4. A system according to claim 2, wherein the application builder is
2 further configured to define conditional logic that is used to drive the dynamic user
3 interface on the mobile client device.

1 5. A system according to claim 2, wherein the application builder is
2 further configured to define a set of data validation rules used to validate data entered
3 in the dynamic forms presented on the mobile client device.

1 6. A system according to claim 1, wherein the mobile client device
2 further includes a business object cache configured to provide a local cache of
3 business objects on the mobile client device.

1 7. A system according to claim 1, wherein the business objects are
2 formatted using extensible markup language(XML).

1 8. A system according to claim 1, wherein the mobile server further
2 includes a business object database coupled to the process automation engine, the
3 business object database configured to store business object records including a
4 plurality of fields, wherein the status of a business object is indicated by a status field
5 in the business object record.

1 9. A system according to claim 8, wherein the status field indicates
2 whether data of the business object record has been changed.

1 10. A system according to claim 1, wherein the communication module is
2 further configured to determine a connection status of the mobile client device.

1 11. A system according to claim 1, wherein the communication of business
2 objects between the mobile client device and the process automation engine is a
3 synchronous communication.

1 12. A system according to claim 1, wherein the communication of business
2 objects between the mobile client device and the process automation engine is an
3 asynchronous communication.

1 13. A system according to claim 1, wherein the mobile server further
2 includes a notification management module coupled to the communication module
3 and the plurality of backend systems, the notification management module configured
4 to generate and transmit a message to the mobile client device.

1 14. A system according to claim 1, wherein mobile client device is
2 configured to provide a notification to the notification management module that a
3 message has been delivered.

1 15. A system according to claim 1, wherein the mobile server further
2 includes a set of adapters coupled to the process automation engine, the plurality of
3 adapters configured to provide integration to the plurality of backend systems.

1 16. A system according to claim 1, further comprising a directory server
2 coupled to the communication module and the presentation module, the directory
3 server configured to authenticate authorization information provided by the mobile
4 client device.

1 17. A system according to claim 1, wherein the mobile client device
2 further includes a client application database configured to store tables including data
3 used to drive the dynamic user interface.

1 18. A system according to claim 1, wherein the dynamic user interface is
2 defined using one of extensible markup language (XML), dynamic hypertext markup
3 language (DHTML), Java Server Pages (JSP), a scripting language, or a compiled
4 module.

1 19. A system according to claim 1, wherein the dynamic user interface
2 includes a plurality of screens having a plurality of data fields and a plurality of
3 display fields.

1 20. A system according to claim 1, wherein the communication module is
2 further configured to marshall the business objects.

1 21. A system according to claim 1, wherein the dynamic user interface is
2 defined to facilitate receipt of data used to drive a mobile business process.

1 22. A system according to claim 1, wherein the network is the Internet.

1 23. A system according to claim 1, wherein the mobile client device is
2 connected to the network via a wireless connection.

1 24. A system according to claim 1, wherein the mobile client device is
2 connected to the network via a wired connection.

1 25. A system according to claim 2, wherein the application builder is
2 configured to create form sequences which may drive a centralized form definition.

1 26. A system according to claim 2, wherein the application builder is
2 configured to dynamically create tables of data based on the dynamic forms.

1 27. A system according to claim 1 wherein the mobile client device further
2 includes a database configured for local caching of business objects.

1 28. A system according to claim 1, wherein the presentation module is
2 configured to convert business objects received from the mobile client device from a
3 compressed form to extensible markup language (XML).

1 29. A system according to claim 13, wherein the notification management
2 module is further configured to recall messages that have not been confirmed by the
3 mobile client device.

1 30. A system according to claim 1, wherein a delivery of business objects
2 from the mobile server to the mobile client device is integrated with the plurality of
3 business processes.

1 31. A system according to claim 1, wherein a single login process may be
2 implemented for both the mobile client device and the mobile server.

1 32. A system according to claim 1, wherein the communication module is
2 configured to receive and transmit data using a secure transmission technique.

3 33. A system according to claim 1, wherein the communication module is
4 configured to process compressed data for use with a wireless network.

5 34. A method for communication and mapping of business objects
6 between a mobile client device and a plurality of backend systems via a network, the
7 method comprising:
8 providing a plurality of mobile business processes, each mobile
9 business process defining a flow and exchange of business objects between the mobile
10 client device and at least one of the plurality of backend systems;
11 defining a dynamic user interface based on at least one mobile business
12 process, the dynamic user interface configured to integrate the business objects and
13 the at least one mobile business process;
14 transmitting the dynamic user interface definition and business objects
15 to the mobile client device; and
16 executing the dynamic user interface on the mobile client device to
17 facilitate viewing and modifying of the business objects.

1 35. A method according to claim 34, further comprising creating a set of
2 dynamic forms which may be transmitted to and presented on the mobile client
3 device.

1 36. A method according to claim 34, further comprising defining
2 automatic logic that is used to drive the dynamic user interface on the mobile client
3 device.

1 37. A method according to claim 34, further comprising defining
2 conditional logic that is used to drive the dynamic user interface on the mobile client
3 device.

1 38. A method according to claim 35, further comprising defining a set of
2 data validation rules used to validate data entered in the dynamic forms presented on
3 the mobile client device.

1 39. A method according to claim 34, wherein the dynamic user interface is
2 defined to facilitate receipt of data used to drive a mobile business process.

1 40. A method according to claim 34, wherein the communication of
2 business objects between the mobile client device and the plurality of mobile backend
3 systems is a synchronous communication.

1 41. A method according to claim 34, wherein the communication of
2 business objects between the mobile client devices and the plurality of backend
3 systems is an asynchronous communication.

1 42. A method according to claim 34 further comprising:
2 generating notification messages;
3 transmitting notification messages to the mobile client device; and
4 receiving acknowledgements of receipt from the mobile client device.

1 43. A method according to claim 34, wherein the dynamic user interface
2 includes a plurality of screens having a plurality of data fields and a plurality of
3 display fields.